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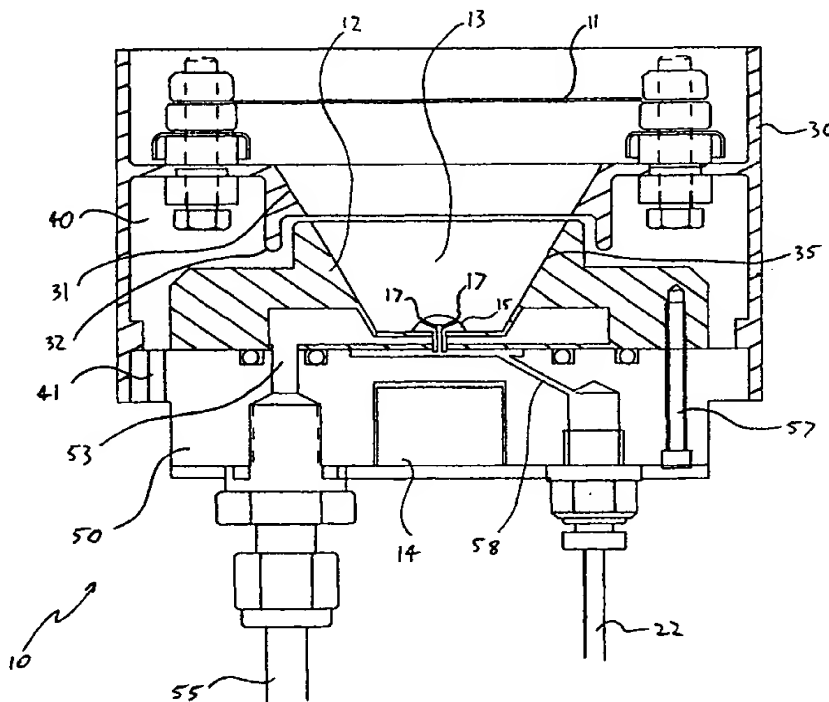
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(54) Title: ION SOURCE

(57) Abstract

An ion source (10) for producing a beam of ions from a plasma is disclosed. A plasma is created at the centre of an annular anode (12) by collisions between energetic electrons and molecules of an ionisable gas. The electrons are sourced from a cathode filament (11) and are accelerated to the anode (12) by an applied electric potential. A magnetic field having an axis aligned with the axis of the anode acts to concentrate the flow of electrons to the centre of the anode (12). The ionisable gas is introduced into the ion source (10) at the point of concentrated electron flow. Ions created in the resultant plasma are expelled from the ion source as an ion beam centred on the axis of the magnetic field. The surfaces of the anode are coated with an electrically conductive non-oxidising layer of Titanium Nitride to prevent a build up of an insulating layer on the anode.



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